



statistical instruments for industry

MARCH 1967

ELGENCO NOISE GENERATOR SHORT FORM CATALOG

ELGENCO INCORPORATED
1550 EUCLID STREET
SANTA MONICA, CALIFORNIA 90404

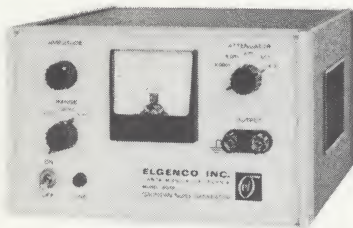
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ELGENCO NOISE GENERATORS

SOLID STATE NOISE GENERATORS



Model 602A 5 Hz to 5 mHz, 3 Ranges.....\$330

FREQ. RANGES: 20 Hz to 20 kHz, 20 Hz to 500 kHz, 20 Hz to 5 mHz
OUTPUT SPECTRUM: 20 Hz to 20 kHz — ± 1 db, 20 Hz to 500 kHz — ± 3 db, 500 kHz to 5 mHz — ± 8 db.

OUTPUT LEVEL: (open circuit), 20 kHz range — 3 volts, 500 kHz range — 2 volts, 5 mHz range — 1 volt.

OUTPUT IMPEDANCE: 900 ohms $\pm 10\%$.

MAXIMUM LOAD: (on direct output) no limit.

OUTPUT STEP ATTENUATOR: X1.0, X0.1, X0.1, X0.001, and X0.0001; calibrated to work into open circuit.

Accuracy: $\pm 3\%$ to 100 kHz, $\pm 10\%$ to 5 mHz.

Output Impedance: 200 ohms $\pm 1\%$.

SPECTRAL DENSITY: Approximate spectral density (mv/ $\sqrt{\text{Hz}}$) for 1 volt rms output. 20 kHz band — 5, 500 kHz band — 1.2, 5 mHz band — 0.4.

AMPLITUDE PROBABILITY DISTRIBUTION: Symmetrical non-clipped Gaussian waveform all ranges.

OUTPUT METER: 0-5 volts rms.

Model 603A 5 Hz to 5 mHz, 3 Ranges.....\$545

FREQ. RANGES: 10 Hz to 20 kHz, 10 Hz to 500 kHz, 10 Hz to 5 mHz.
OUTPUT SPECTRUM: 10 Hz to 500 kHz — ± 1 db, 500 kHz to 5 mHz — ± 3.5 db.

OUTPUT LEVEL: (open circuit) 3 volts rms all ranges.

OUTPUT IMPEDANCE: 200 ohms $\pm 10\%$.

MAX. LOAD: (on direct output) 700 ohms.

OUTPUT STEP ATTENUATOR: X1.0, X0.1, X0.1, X0.001, and X0.0001; calibrated to work into open circuit.

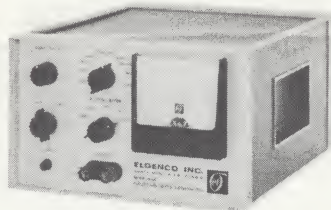
Accuracy: $\pm 3\%$ to 500 kHz, $\pm 5\%$ to 5 mHz.

Output Impedance: 200 ohms $\pm 1\%$.

SPECTRAL DENSITY: Approximate spectral density (mv/ $\sqrt{\text{Hz}}$) for 1 volt rms output. 20 kHz band — 5, 500 kHz band — 1.2, 5 mHz band — 0.4.

AMPLITUDE PROBABILITY DISTRIBUTION: Symmetrical non-clipped Gaussian waveform all ranges.

OUTPUT METER: 0-5 volts rms.



Model 610A 5 Hz to 5 mHz, 8 Ranges.....\$1,275

FREQ. RANGES: 10 Hz to 2 kHz, 10 Hz to 5 kHz, 10 Hz to 20 kHz, 10 Hz to 50 kHz, 10 Hz to 200 kHz, 10 Hz to 500 kHz, 10 Hz to 2 mHz, and 10 Hz to 5 mHz.

OUTPUT SPECTRUM: Uniform ± 0.5 db from 10 Hz to 500 kHz and ± 2.0 db from 500 kHz to 5 mHz.

OUTPUT LEVEL: 0 to 1 volt rms, adjustable by front panel amplitude control. A dynamic range of 5 to 1 peak to rms value is provided.

OUTPUT STEP ATTENUATOR: X1.0, X0.1, X0.1, X0.001, X0.0001. Accuracy ± 0.25 db/step to 500 kHz; ± 0.063 db/step to 5 mHz.

SOLID STATE NOISE GENERATORS

Model 610A (cont.)

SPECTRAL DENSITY: Approx. for 1 volt rms output.

Band	mv/ $\sqrt{\text{Hz}}$	Band	mv/ $\sqrt{\text{Hz}}$
2 kHz	17.5	200 kHz	1.75
5 kHz	11.0	500 kHz	1.10
20 kHz	5.5	2 mHz	0.55
50 kHz	3.5	5 mHz	0.30

AMPLITUDE PROBABILITY DISTRIBUTION: Symmetrical Gaussian all ranges.

OUTPUT METER: 0 to 1 volt rms. Accuracy $\pm 2\%$ of full scale to 2 mHz; $\pm 5\%$ to 5 mHz.

MAXIMUM LOAD: 500 ohms on direct output.

OUTPUT IMPEDANCE: 50 ohms direct output.

POWER REQUIREMENTS: 115/230 volts $\pm 10/20$ volts, 50 to 1,000 Hertz ac.



Series 624A Fixed Frequency Noise Generators

OUTPUT LEVEL: (open circuit) 3 volts rms.

OUTPUT IMPEDANCE: 200 ohms $\pm 10\%$.

MAX. LOAD: (on direct output) 700 ohms.

OUTPUT STEP ATTENUATOR: X1.0, X0.1, X0.1, X0.001, and X0.0001; calibrated to work into open circuit.

Output Impedance: 200 ohms $\pm 1\%$.

AMPLITUDE PROBABILITY DISTRIBUTION: Symmetrical non-clipped Gaussian waveform.

OUTPUT METER: 0-5 volts rms.

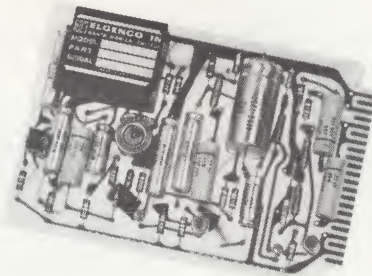
POWER: 115/230 volts $\pm 10/20$ volts, 50 to 1,000 Hertz ac.

DIMENSIONS: $5\frac{1}{4}$ " high x $8\frac{3}{4}$ " wide x 11" deep.

Some of the many frequency ranges available are listed below. Write for further information.

MODEL 624A	
-12124 20 Hz to 20 kHz ± 1 db	\$305
-11124 10 Hz to 20 kHz ± 1 db	\$340
-12154 20 Hz to 50 kHz ± 1 db	\$325
-11154 10 Hz to 50 kHz ± 1 db	\$360
-12115 20 Hz to 100 kHz ± 1 db	\$345
-11115 10 Hz to 100 kHz ± 1 db	\$380
-12125 20 Hz to 200 kHz ± 1 db	\$395
-11125 10 Hz to 200 kHz ± 1 db	\$430
-12155 20 Hz to 500 kHz ± 1 db	\$415
-11155 10 Hz to 500 kHz ± 1 db	\$450
-22154 20 Hz to 50 kHz ± 2 db	\$305
-21154 10 Hz to 50 kHz ± 2 db	\$340
-22115 20 Hz to 100 kHz ± 2 db	\$310
-21115 10 Hz to 100 kHz ± 2 db	\$345
-22125 20 Hz to 200 kHz ± 2 db	\$330
-21125 10 Hz to 200 kHz ± 2 db	\$365
-22155 20 Hz to 500 kHz ± 2 db	\$345
-21155 10 Hz to 500 kHz ± 2 db	\$380
-32155 20 Hz to 500 kHz ± 3 db	\$305
-31155 10 Hz to 500 kHz ± 3 db	\$340
-52124 20 Hz to 20 kHz $\pm \frac{1}{2}$ db	\$430
-51124 10 Hz to 20 kHz $\pm \frac{1}{2}$ db	\$465
-52154 20 Hz to 50 kHz $\pm \frac{1}{2}$ db	\$450
-51154 10 Hz to 50 kHz $\pm \frac{1}{2}$ db	\$485
-52115 20 Hz to 100 kHz $\pm \frac{1}{2}$ db	\$470
-51115 10 Hz to 100 kHz $\pm \frac{1}{2}$ db	\$505
-52125 20 Hz to 200 kHz $\pm \frac{1}{2}$ db	\$520
-51125 10 Hz to 200 kHz $\pm \frac{1}{2}$ db	\$555
-52155 20 Hz to 500 kHz $\pm \frac{1}{2}$ db	\$540
-51155 10 Hz to 500 kHz $\pm \frac{1}{2}$ db	\$575

SOLID STATE NOISE GENERATORS



FIXED FREQUENCY NOISE GENERATOR CARDS

AMPLITUDE PROBABILITY DISTRIBUTION: Symmetrical non-clipped Gaussian waveform.

OUTPUT LEVEL: (open circuit) 3 volts rms.

AMPLITUDE CONTROL: Continuously variable.

SIZE: $4\frac{1}{2}$ " x $6\frac{1}{2}$ " x 1".

POWER: —30 volts dc.

SERIES 3602A, 3603A, and 3606A

OUTPUT IMPEDANCE: 600 ohms $\pm 10\%$.

MAX. LOAD: 300 ohms.

Some of the many frequency ranges available are listed below. Write for further information.

MODEL 3602A

-12124 20 Hz to 20 kHz ± 1 db	\$174
-11124 10 Hz to 20 kHz ± 1 db	\$209
-12154 20 Hz to 50 kHz ± 1 db	\$194
-11154 10 Hz to 50 kHz ± 1 db	\$229

MODEL 3603A

-12115 20 Hz to 100 kHz ± 1 db	\$214
-11115 10 Hz to 100 kHz ± 1 db	\$249
-12125 20 Hz to 200 kHz ± 1 db	\$229
-11125 10 Hz to 200 kHz ± 1 db	\$264
-12155 20 Hz to 500 kHz ± 1 db	\$249
-11155 10 Hz to 500 kHz ± 1 db	\$284

MODEL 3602A

-22154 20 Hz to 50 kHz ± 2 db	\$174
-21154 10 Hz to 50 kHz ± 2 db	\$209
-22115 20 Hz to 100 kHz ± 2 db	\$179
-21115 10 Hz to 100 kHz ± 2 db	\$214
-22125 20 Hz to 200 kHz ± 2 db	\$199
-21125 10 Hz to 200 kHz ± 2 db	\$234
-22155 20 Hz to 500 kHz ± 2 db	\$214
-21155 10 Hz to 500 kHz ± 2 db	\$249
-32155 20 Hz to 500 kHz ± 3 db	\$174
-31155 10 Hz to 500 kHz ± 3 db	\$209

MODEL 3606A

-52124 20 Hz to 20 kHz $\pm \frac{1}{2}$ db	\$299
-51124 10 Hz to 20 kHz $\pm \frac{1}{2}$ db	\$334
-52154 20 Hz to 50 kHz $\pm \frac{1}{2}$ db	\$319
-51154 10 Hz to 50 kHz $\pm \frac{1}{2}$ db	\$354
-52115 20 Hz to 100 kHz $\pm \frac{1}{2}$ db	\$339
-51115 10 Hz to 100 kHz $\pm \frac{1}{2}$ db	\$374
-52125 20 Hz to 200 kHz $\pm \frac{1}{2}$ db	\$354
-51125 10 Hz to 200 kHz $\pm \frac{1}{2}$ db	\$389
-52155 20 Hz to 500 kHz $\pm \frac{1}{2}$ db	\$374
-51155 10 Hz to 500 kHz $\pm \frac{1}{2}$ db	\$409

SERIES 3607A

OUTPUT IMPEDANCE: 200 ohms $\pm 10\%$.

MAX. LOAD: 70 ohms.

Some of the many frequency ranges available are listed below. Write for further information.

MODEL 3607A

-15316 5 kHz to 1 mHz ± 1 db	\$354
-35316 5 kHz to 1 mHz ± 3 db	\$195
-25356 5 kHz to 5 mHz ± 2 db	\$570
-35356 5 kHz to 5 mHz ± 3 db	\$460



ELGENCO, INC.

1550 Euclid Street • Santa Monica, Calif. • (213) 451-1635 • TWX (213) 879-0091

ELGENCO NOISE GENERATORS

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Model 632A Dual Output DC to 400 Hz and 10 Hz to 35 kHz

LOW FREQUENCY OUTPUT\$2,595

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian $\pm 1.0\%$.
OUTPUT SPECTRUM: Uniform ± 0.1 db from DC to 350 Hz.
MAXIMUM OUTPUT: 1.0 volts rms. A dynamic range of 5 to 1 peak to rms value is provided.
MAXIMUM SPECTRAL DENSITY: Approx. 1.5×10^{-3} volts²/Hz.
OUTPUT MEAN: Less than 5 mv.
OUTPUT IMPEDANCE: Approximately 1,000 ohms.

HIGH FREQUENCY OUTPUT

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian $\pm 2\%$.
OUTPUT SPECTRUM: Uniform ± 0.5 db from 10 to 35,000 Hz.
MAXIMUM OUTPUT: 1.0 volts rms. A dynamic range of 5 to 1 peak to rms values is provided.
MAXIMUM SPECTRAL DENSITY: Approx. 2×10^{-4} volts²/Hz.
OUTPUT MEAN: Less than 1 mv.
OUTPUT IMPEDANCE: Approximately 100 ohms.

NOISE REGULATOR: rms output level continuously stabilized against a reference voltage.

OVERLOAD INDICATOR: Panel overload indicator lights when input noise level to regulator is out of regulation range.

POWER: 115/230 volts $\pm 10/20$ volts, 50 to 1,000 Hertz ac.
DIMENSIONS: 5 1/4" high x 17" wide x 11" deep. 19" wide with rack mounting flanges mounted (supplied).



ENCAPSULATED NOISE SOURCE MODULES

Series 1602A, 1603A, and 1606A\$95 to \$340
 Various frequency ranges and output flatness available. Size: 1 3/4" x 1 1/2" x 3/4". Write for details.

MODEL 3609A Power Supply Card \$67

(supplies power for up to 2 noise generator cards)

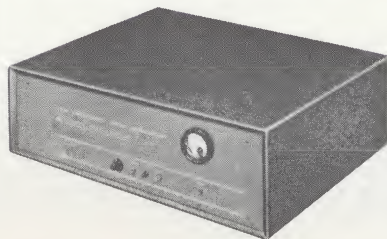
SIZE: 4 1/2" x 6 1/4"

INPUT: 115/230 volts $\pm 10/20$ volts, 50 to 1,000 Hz.

OPTIONS & ACCESSORIES FOR MODELS 602A, 603A, 610A, & SERIES 624A

Rechargeable battery optionadd \$135
 Full rack width cabinet and rack mounting hardware option add \$35
 Adapter kit, dual unit and rack mounting hardware\$7
 Adapter kit, single unit rack mounting (includes blank panel to make dual unit)\$56
 Rechargeable battery kit\$145

VACUUM TUBE NOISE GENERATORS



Model 301A DC to 40 Hz\$2,195

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian $\pm 1\%$.
OUTPUT SPECTRUM: Uniform ± 0.1 db from 0 to 35 Hz.
MAX. OUTPUT: 12 volts rms into a 1 megohm input resistance.
 Dynamic range of 5 to 1 peak-to-rms is provided.

MAX. SPECTRAL DENSITY: Approx. 2.5 volts²/Hz.

D.C. UNBALANCE: Less than 50 mv.

NOISE REGULATOR: rms output level continuously stabilized against a reference voltage.

OVERLOAD INDICATOR: Panel overload indicator lights when input noise level to regulator is out of regulation range.

POWER: 115 v ± 10 v, 60 Hz ac.

MOUNTING: Standard relay rack panel 7" high x 19" wide. Can be supplied in deluxe cabinet as shown for \$75 extra.

Model 321A DC to 120 Hz\$2,295

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian $\pm 1\%$.
OUTPUT SPECTRUM: Uniform ± 0.1 db from 0 to 105 Hz.

MAX. OUTPUT: 12 volts rms into a 1 megohm input resistance.
 Dynamic range of 5 to 1 peak-to-rms is provided.

MAX. SPECTRAL DENSITY: Approx. 1.0 volts²/Hz.

D.C. UNBALANCE: Less than 50 mv.

NOISE REGULATOR: rms output level continuously stabilized against a reference voltage.

OVERLOAD INDICATOR: Panel overload indicator lights when input noise level to regulator is out of regulation range.

POWER: 115 v ± 10 v, 60 Hertz ac.

MOUNTING: Standard relay rack panel 7" high x 19" wide. Can be supplied in deluxe cabinet as shown for \$75 extra.

Model 331A 10 Hz to 20 kHz\$1,395

OUTPUT SPECTRUM: Uniform to plus or minus 0.5 db from 10 to 20,000 Hz.

OUTPUT LEVEL: 0 to 5 volts rms, adjustable by self contained attenuator. A dynamic range of 7 to 1 peak to rms value is provided.

SPECTRAL DENSITY: Approx. 1 mv/ $\sqrt{\text{Hz}}$ for 5 volt rms output.

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian $\pm 1\%$.

NOISE REGULATOR: rms output level continuously stabilized against a zener reference voltage.

OVERLOAD INDICATOR: Panel overload indicator lights when input noise level to regulator is out of regulation range.

OUTPUT METER: 0 to 5 volts rms.

MAX. LOAD: 10,000 ohms.

POWER REQUIREMENTS: 115/230 volts $\pm 10/20$ volts, 50 to 1,000 Hertz ac.

MOUNTING: Standard relay rack panel 7" high x 19" wide and is 15" deep. Can be supplied in deluxe cabinet as shown for \$75 extra.

MODEL 331A-23 10 Hz to 2 kHz\$1495

MODEL 331A-53 10 Hz to 5 kHz\$1495

MODEL 331A-54 10 Hz to 50 kHz\$1495

MODEL 331A-25 10 Hz to 200 kHz\$1595

MODEL 331A-55 10 Hz to 500 kHz\$1745



Model 602A with full rack width mounting option.

VACUUM TUBE NOISE GENERATORS



Model 311A Dual output DC to 40 Hz and 10 Hz to 20 kHz\$2,595

LOW FREQUENCY OUTPUT

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian $\pm 1\%$.
OUTPUT SPECTRUM: Uniform ± 0.1 db from 0 to 35 Hz.
MAX. OUTPUT: 12 volts rms into a 1 megohm input resistance.
 Dynamic range of 5 to 1 peak-to-rms is provided.
MAX. SPECTRAL DENSITY: Approx. 2.5 volts²/Hz.
D.C. UNBALANCE: Less than 50 mv.

HIGH FREQUENCY OUTPUT

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian $\pm 2\%$.
OUTPUT SPECTRUM: Uniform ± 0.5 db from 10 to 20,000 Hz.
MAX. OUTPUT: 15 volts rms.
MAX. SPECTRAL DENSITY: 7.5×10^{-3} volts²/Hz.

NOISE REGULATOR: rms output level continuously stabilized against a reference voltage.

OVERLOAD INDICATOR: Panel overload indicator lights when input noise level to regulator is out of regulation range.

POWER: 115 v ± 10 v, 60 Hertz ac.

MOUNTING: Standard relay rack panel 7" high x 19" wide. Can be supplied in deluxe cabinet as shown for \$75 extra.

Model 312A Dual output DC to 120 Hz and 10 Hz to 20 kHz\$2,695

LOW FREQUENCY OUTPUT

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian $\pm 1\%$.
OUTPUT SPECTRUM: Uniform ± 0.1 db from 0 to 105 Hz.
MAX. OUTPUT: 12 volts rms into a 1 megohm input resistance.
 Dynamic range of 5 to 1 peak-to-rms is provided.
MAX. SPECTRAL DENSITY: Approx. 1.0 volts²/Hz.
D.C. UNBALANCE: Less than 50 mv.

HIGH FREQUENCY OUTPUT

AMPLITUDE PROBABILITY DISTRIBUTION: Gaussian $\pm 2\%$.
OUTPUT SPECTRUM: Uniform ± 0.5 db from 10 to 20,000 Hz.
MAX. OUTPUT: 15 volts rms.
MAX. SPECTRAL DENSITY: 7.5×10^{-3} volts²/Hz.

NOISE REGULATOR: rms output level continuously stabilized against a reference voltage.

OVERLOAD INDICATOR: Panel overload indicator lights when input noise level to regulator is out of regulation range.

POWER: 115 v ± 10 v, 60 Hz ac.

MOUNTING: Standard relay rack panel 7" high x 19" wide. Can be supplied in deluxe cabinet as shown for \$75 extra.



Models 602A and 610A combined by dual unit adapter kit.



ELGENCO, INC.

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